



Document Review

Transportation Systems Management & Operations (TSM&O) Master Plan



CONTENTS

1	Documentation Review.....	1
1.1	Key Documents.....	1
1.1.1	MetroPlan Orlando 2045 Metropolitan Transportation Plan Update	1
1.1.2	MetroPlan Orlando 2045 MTP Update Technical Report: Managing Mobility – A Congestion Management Process.....	1
1.1.3	MetroPlan Orlando Transportation Improvement Program.....	2
1.1.4	MetroPlan Orlando ITS Master Plan (adopted 2017).....	2
1.1.5	MetroPlan Orlando Connected and Automated Vehicle Readiness Study (2020)	2
1.1.6	FDOT Transportation System Management and Operations Strategic Plan (2017)	3
1.1.7	FDOT District Five TSM&O Implementation Plan (2017).....	3
1.1.8	FDOT Strategic Intermodal System Policy Plan (2022)	3
1.1.9	FDOT Statewide and District Five ITS Architecture (2020).....	4
1.1.10	LYNX ITS Strategic Plan (2022).....	4
1.1.11	Central Florida Expressway (CFX) 2045 Master Plan (Anticipated release Fall of 2022).....	4
1.1.12	CFX ITS Master Plan (2022)	5
1.1.13	Florida’s Turnpike Enterprise TSM&O Strategic Plan (2019).....	5
1.1.14	Orange County Transportation Technology Improvements White Paper (Draft 2022).....	5
1.1.15	Osceola County TSM&O Strategic Plan (2020).....	5
1.1.16	FDOT District Five Transportation Systems Management & Operations Strategy Guide (2018)	6
1.1.17	FDOT Statewide Arterial Management Program (STAMP) Action Plan (2021).....	6
1.1.18	Florida’s Connected and Automated Vehicles Business Plan (2019).....	6
2	Supporting Reference Documents.....	7

1 Documentation Review

(Task 1: Develop TSM&O Vision, Goals, and Objectives)

Below is an overview and inventory of key documents and resources that will be considered and used during development of the MetroPlan Orlando TSM&O Master Plan. These documents range from regional plans like MetroPlan Orlando's Intelligent Transportation System (ITS) Master Plan to statewide plans like the Florida Department of Transportation's (FDOT) TSM&O Strategic Plan.

Key Documents are summarized, followed by a list of additional Supporting Reference Documents that will be consulted as needed.

1.1 KEY DOCUMENTS

1.1.1 METROPLAN ORLANDO 2045 METROPOLITAN TRANSPORTATION PLAN UPDATE

The Metropolitan Transportation Plan (MTP) is the long-range transportation plan for MetroPlan Orlando's planning area which consists of Orange, Osceola, and Seminole counties. The MTP defines \$27.9 billion of long-term transportation investment through the year 2045 that aligns with regional goals to protect the safety, health, environment, and economic well-being. Future projects within the MetroPlan Orlando area must be included in the plan to receive federal and state funding. Long-range transportation plans like the MTP are updated every five years to reflect evolving regional goals and priorities, and current Federal and State emphasis areas.

How It Will Be Used: The 2045 MTP is a principal resource to guide development of the TSM&O Master Plan's vision, goals and objectives. The MTP will also be used to identify opportunities for new TSM&O projects and the approach to categorizing them. Currently planned projects will be considered for enhancing, expanding, or extending current ITS projects and TSM&O strategies. Importantly, there is a reciprocal relationship between the TSM&O Plan and MTP. While the TSM&O Master Plan will reflect the 2045 MTP, it will also help support development of the 2050 MTP.

1.1.2 METROPLAN ORLANDO 2045 MTP UPDATE TECHNICAL REPORT: MANAGING MOBILITY – A CONGESTION MANAGEMENT PROCESS

Developed as part of the 2045 MTP, the Congestion Management Process (CMP) technical report provides the information needed to make informed decisions regarding the allocation of financial resources to manage current and future congestion. Existing congestion-related impacts are evaluated and improvement strategies for both people and goods are included. The CMP provides a way to evaluate both recurring and nonrecurring congestion. Additionally, a monitoring program that will periodically assess the effectiveness of the strategies over time is established and utilized by the CMP. The CMP uses performance measures to evaluate how effective a project is as it relates to the 2045 MTP goals. The 2045 MTP goals and objectives outline provisions for:

- Safety and Security
- Reliability and Performance
- Access and connectivity
- Health and Environment
- Investment and Economy

How It Will Be Used: This plan will be used to assess current conditions based on performance measures to identify the need for new systems and strategies. Additionally, the CMP will provide details regarding ways to establish goals and performance measures that are meaningful for all modes of travel for the entire region.

1.1.3 METROPLAN ORLANDO TRANSPORTATION IMPROVEMENT PROGRAM

The Transportation Improvement Program (TIP) is updated annually to set the schedule for improvements of the region's transportation system for the next five years. This short-term plan assigns available funding to specific projects that provide improvements within all modes of transportation. The draft plan is evaluated by MetroPlan Orlando's advisory committees to obtain feedback. Currently, the plan shows details for nearly \$7 billion in projects over the next five years. These projects are focused on the near-term priorities and needs coming of the 2045 MTP. Currently within the TIP, \$64.9 million dollars in TSM&O projects are programmed by both Federal and State dollars over the next five years.

How It Will Be Used: The TIP will be used to identify opportunities for new TSM&O projects and will inform the approach for categorizing future projects. Currently planned projects will be considered for enhancing, expanding, or extending current ITS efforts and TSM&O strategies.

1.1.4 METROPLAN ORLANDO ITS MASTER PLAN (ADOPTED 2017)

The *ITS Master Plan* evaluated current systems in the MetroPlan Orlando planning area. It established future needs and outlined ITS projects that could be implemented to assist in the management traffic flow. The *ITS Master Plan* proposed a system that focused on improving efficiency, reliability and safety of the region's multi-modal transportation system. The tasks were completed with input from Stakeholders to include their goals, objectives, needs, and desired strategies.

During plan development, the Regional ITS Architecture (RITSA) was evaluated, and a Concept of Operations (ConOps) was prepared. The plan included sections related to:

- ITS Vision, Goals and Objectives
- Existing Conditions/Infrastructure/Inventory
- Needs Assessment
- Applicable ITS Strategies
- RITSA
- Concept of Operations (ConOps)
- Prioritized ITS Projects

How It Will Be Used: The ITS Master Plan is a foundational document to the TSM&O Master Plan, and will be used as a reference for: vision, goals, and objectives development; existing conditions comparison; progress of programmed projects; and how ITS strategies can become part of the broader TSM&O approach.

1.1.5 METROPLAN ORLANDO CONNECTED AND AUTOMATED VEHICLE READINESS STUDY (2020)

The purpose of the MetroPlan Orlando Connected and Automated Vehicle (CAV) Readiness Study is to provide area stakeholders with an evaluation of the current preparedness of local counties and cities for the emergence of CAVs. Additionally, this plan recommends next steps to proactively enhance local government preparation. The information and concepts included in this report were based on the characteristics and constraints of MetroPlan Orlando's planning area which encompasses Seminole, Orange, and Osceola counties, and the incorporated jurisdictions within.

How It Will Be Used: The CAV Readiness Study will be useful for identifying locations that are suited for CAV demonstration projects and related activities, based on the documented readiness of agencies to support these technologies.

1.1.6 FDOT TRANSPORTATION SYSTEM MANAGEMENT AND OPERATIONS STRATEGIC PLAN (2017)

The FDOT TSM&O Strategic Plan considers program resource needs and defines recommendations. The plan reviews topics as they relate to a district's TSM&O staffing structure and positions, funding for TSM&O implementation, operations & maintenance, TSM&O program capacity, and workforce development.

The document outlines funding mechanisms for TSM&O program implementation and Operations & Management funding, such as the Ten-Year TSM&O Cost Feasible Plan (formerly known as the ITS Cost Feasible Plan), DITS (Statewide Intelligent Transportation System) funds, and maintenance funding. The Statewide TSM&O Excellence Program (STEP) was conceived to meet the needs of TSM&O capacity and workforce development. The section examines STEP needs and target audiences. The Strategic Plan identifies districts as the agents to work with internal and external stakeholders to support local and regional transportation goals and objectives.

How It Will Be Used: This document will serve as a supporting document to provide insight to best practices and lessons learned based on FDOT's statewide assessments and individual district feedback. The document will also assist with the programmatic development of an individual agency's TSM&O and/or traffic signal operations program.

1.1.7 FDOT DISTRICT FIVE TSM&O IMPLEMENTATION PLAN (2017)

The FDOT District Five TSM&O Implementation Plan was developed to identify an implementation plan which promotes program development and sets the foundation for an effective TSM&O practice. The document is based on six dimensions of a successful TSM&O program:

- Business Process
- Organization & Workforce
- Culture
- Collaboration
- Systems & Technology
- Performance Measures

Goals and objectives were developed for each subsection based on the feedback provided by stakeholders. The objectives were developed to be Specific, Measurable, Achievable, Realistic, and Timely (SMART). The existing approach for each section of the plan is considered, and the proposed implementation actions are also discussed. This effort resulted in a task action matrix which notes specific action items to be completed based on each goal or objective identified in the plan.

How It Will Be Used: This document will be used to consider the goals, objectives, and approach of FDOT District Five regarding TSM&O project implementation.

1.1.8 FDOT STRATEGIC INTERMODAL SYSTEM POLICY PLAN (2022)

The FDOT Strategic Intermodal System (SIS) Policy Plan establishes a policy framework for FDOT to plan and manage the SIS network. This roadway and infrastructure network defines the highest priority network to manage the movement of goods and people. The transportation facilities most important to the state's economic competitiveness are featured in the network. The plan describes objectives, cross-cutting policy areas, focus areas,

and strategies to guide FDOT and transportation partners statewide in accomplishing the vision and goals of the SIS. The SIS policy changes within the plan include expanding SIS funding eligibility for operational and technology solutions such as TSM&O.

How It Will Be Used: This document will serve as a reference to FDOT's current emphasis areas and approach for prioritizing the needs for SIS corridors, connectors, and hubs. The potentially expanded funding eligibility for TSM&O will also be considered for SIS related projects.

1.1.9 FDOT STATEWIDE AND DISTRICT FIVE ITS ARCHITECTURE (2020)

The FDOT District Five Regional ITS Architecture (RITSA) is a roadmap for transportation systems integration for District Five services over a 10-year time horizon. The District Five RITSA has been developed and maintained through a cooperative effort of the state's transportation agencies. The District Five RITSA complies with FHWA Rule 940 requirements, as well as FTA policy directives, for ITS Architectures. The District Five RITSA was converted to be compatible with the latest version of the Architecture Reference for Cooperative and Intelligent Transportation (ARC-IT) Version 9.0 which makes available all of the ARC-IT content for use in updates to the District Five RITSA.

The Statewide and Regional ITS Architectures represent a shared vision of how each agency's systems will work together in the future, sharing information and resources to provide a safer, more efficient, and more effective transportation system for travelers in the State of Florida.

The District Five RITSA functionally defines the interactions and information exchanges between the intelligent transportation systems operated and maintained by the various public and private sector organizations in the region. The RITSA includes existing systems as well as planned systems and services that are needed to deliver the transportation services to improve safety, mobility and efficiency across the region.

How It Will Be Used: This document will be used to ensure the systems and needs identified in the TSM&O Master Plan have established architectures for the stakeholders using the system. The RITSA will also serve as a clearinghouse for any potential future projects an agency wishes to support, as well as a repository for future projects yet to be defined.

1.1.10 LYNX ITS STRATEGIC PLAN (2022)

This document, an update to LYNX's 2016 ITS Strategic Plan, is being updated to reflect the current state of LYNX technologies, present LYNX's vision of the ITS systems and technologies that should be implemented in the future and prepare the ITS work program to achieve this vision. The vision should be based upon the needs of LYNX customers as well as the departments and divisions of LYNX, support the regional vision of local jurisdictions, and position LYNX to continue to be recognized as a leader in ITS implementation.

How It Will Be Used: This document will be used to identify opportunities for project partnerships as agencies within the region plan for, implement, and operate ITS to support transit mobility. Additionally, this document will be used to identify opportunities to include new services and management strategies that support transit-orientated mobility and operations.

1.1.11 CENTRAL FLORIDA EXPRESSWAY (CFX) 2045 MASTER PLAN

The Central Florida Expressway (CFX) 2045 Master Plan includes community outreach, stakeholder interaction and technical analysis. The Master Plan serves two critical purposes. It defines the policies that will be followed when evaluating projects for future mobility needs and identifies specific near- and long-term projects which will be reevaluated annually as the Five-Year Work Plan is developed.

How It Will Be Used: This document will be useful to identify opportunities for new TSM&O projects and categorizing future projects. Currently planned projects will be considered for enhancing, expanding, or extending current ITS project and TSM&O strategies.

1.1.12 CFX ITS MASTER PLAN (2022)

The CFX ITS Master Plan is a dynamic long-term document to provide a conceptual layout to guide future growth and development. The plan identifies the current state of CFX technologies and provides guidance for CFX's ITS program into the next decade. It is anticipated that the plan will be revisited on a reoccurring basis for updates to keep up with industry trends and the evolution of the technology ecosystem.

How It Will Be Used: This document will be used to identify opportunities for project relevant partnerships as agencies within the region plan for, implement, and operate ITS to enhance mobility. Additional consideration to this plan will be given when considering goals that incorporate the facilities managed by CFX. This document will also be used to identify opportunities to include new services and management strategies that support freeway mobility and operations.

1.1.13 FLORIDA'S TURNPIKE ENTERPRISE TSM&O STRATEGIC PLAN (2019)

The purpose of this document is to provide a strategic approach to TSM&O program elements, methods, strategies, and analysis tools. This plan recognizes that TSM&O technology is changing rapidly and will continue to evolve in the coming decades. This document supplies a snapshot of current conditions and trends that will need to be updated frequently.

How It Will Be Used: This document will be used when considering goals that incorporate the facilities managed by the Florida Turnpike Enterprise. Additional consideration to this plan will be given when considering projects that interface with the Florida Turnpike directly or have the potential to require operational considerations among partnering agencies.

1.1.14 ORANGE COUNTY TRANSPORTATION TECHNOLOGY IMPROVEMENTS WHITE PAPER (DRAFT 2022)

Orange County's recommended transportation technology projects include over \$161 million in construction, systems integration, and services designed to leverage regional, state, and new local projects to build a safer, more efficient, and more connected transportation system. This white paper outlines the transportation technology projects and innovations that may be part of its TSM&O initiative for further analysis and input. The white paper summarizes previously-identified projects, both funded and unfunded, and suggests potential new projects for consideration in light of best practices in transportation technology nationally. To the extent possible, projects include cost estimates and schedules or timeframes for implementation.

How It Will Be Used: This document will be used as an important source of information for completed, current, and recommended TSM&O projects within Orange County. The related background on best practices and case examples will also be informative for Master Plan development.

1.1.15 OSCEOLA COUNTY TSM&O STRATEGIC PLAN (2020)

The Osceola County TSM&O Strategic Plan was developed to provide a framework to improve the County's roadway network by using TSM&O deployments to manage congestion. The plan first assessed the existing conditions of the County, then determined needs. The plan also identifies applicable TSM&O strategies based on the outcome of a Benefit-Cost analysis. Finally, this plan details the operations and maintenance needs of the County and provides insight as to how TSM&O will impact the existing maintenance.

How it Will Be Used: This document will be used to identify opportunities for project relevant partnerships as agencies within the region plan for, implement, and operate ITS to enhance mobility. Additionally, this document will be used to identify opportunities to include new services and management strategies that support all modes of transportation.

1.1.16 FDOT DISTRICT FIVE TRANSPORTATION SYSTEMS MANAGEMENT & OPERATIONS STRATEGY GUIDE (2018)

The TSM&O Guidebook outlines a programmatic approach to TSM&O from transportation planning through project construction. The guidebook considers how TSM&O must leverage all sections or departments within an agency. The main sections or departments highlighted in the guidebook include budgeting/programming, transportation planning, traffic operations, preliminary and final design, environmental/permitting, right-of-way, construction and operations and maintenance. This document helps an agency to consider how a TSM&O program should consider each section or department of their agency as they relate to the three major areas of TSM&O; planning, implementation, and monitoring.

How it Will Be Used: This document will be used as a resource to help identify the best practices for implementing TSM&O projects with FDOT District Five. This resource will help identify the appropriate strategies to consider particular causes of congestion within a specific facility. The TSM&O Guidebook will allow agencies within the MetroPlan Orlando region to take a consistent approach to project planning, implementation, and construction.

1.1.17 FDOT STATEWIDE ARTERIAL MANAGEMENT PROGRAM (STAMP) ACTION PLAN (2021)

The STAMP Action Plan provides an outline of actions to be taken based on desired outcomes of an arterial management program. The goal of the outcomes desired will guide the collective arterial management program and document progress to encourage the exchange of ideas among stakeholders, foster collaboration among operational partners, and enhance project coordination. The 2021 update to the STAMP Action Plan identifies six outcome-based objectives including infrastructure upgrades, data management, performance assessment, emerging technologies, and operations & maintenance.

How it Will Be Used: This plan will serve as a resource for project implementation within the arterial roadway network. The plan will provide context for the goals and objectives of an individual program and an agency's TSM&O program as a whole.

1.1.18 FLORIDA'S CONNECTED AND AUTOMATED VEHICLES BUSINESS PLAN (2019)

Florida's Connected and Automated Vehicles (CAV) Business Plan captures the results of FDOT's coordination through internal and external meetings and workshops. This plan helps convey information related to the unknowns in CAV deployment. Additionally, this plan helps in developing an institutionalized framework and timeframes to aggressively move the CAV Program from research and pilot projects into statewide deployments. This CAV Business Plan also outlines preparation efforts for Florida's infrastructure while documenting lessons learned from prior FDOT projects.

How it Will Be Used: The plan will serve as a reference document when individual agencies are considering ways to promote and advance CAV technology with the support of MetroPlan Orlando and FDOT. This business plan will also serve as a framework for how to ensure the State's best practices and goals are considered with respect to CAV deployment.



2 Supporting Reference Documents

The following are additional documents and resources that will be consulted and utilized as appropriate during development of the TSM&O Master Plan. While not as central as the key documents above, they still have relevance that will be considered during plan development.

- Central Florida MPO Alliance (CFMPOA) TSM&O Framework (2023)
- MetroPlan Orlando Equity Audit findings and recommendations (In progress)
- Central Florida Traffic Incident Management (TIM) Evacuation Plans
- Osceola, Orange and Seminole County CTST Meeting Minutes (as available)
- FDOT Statewide Systems Engineering Management Plan (SEMP) (Updated in 2019)
- FDOT Florida Transportation Plan (2020)
- FDOT Freight Mobility and Trade Plan Update (2020)
- Relevant legislation such as the Infrastructure Investment and Jobs Act (IIJA) (2021)



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